

# MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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## INTRODUCTION.

The MONTHLY WEATHER REVIEW for February, 1898, is based on 2,929 reports from stations occupied by regular and voluntary observers, classified as follows: 147 from Weather Bureau stations; numerous special river stations; 32 from post surgeons, received through the Surgeon General, United States Army; 2,583 from voluntary observers; 96 received through the Southern Pacific Railway Company; 13 from Life-Saving stations, received through the Superintendent United States Life-Saving Service; 31 from Canadian stations; 20 from Mexican stations; 7 from Jamaica, W. I. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Government Survey, Honolulu; Dr. Mariano Bárcena, Director of the Central Meteorological Observatory of Mexico; Mr. Maxwell Hall, Government Meteorologist,

Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; and Commander J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to generally conform to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are generally corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

## STORM WARNINGS AND WEATHER FORECASTS.

By Lieut. Col. H. H. C. DUNWOODY, Supervising Forecast Official.

Under this head it is proposed to make note of all extreme and injurious weather conditions occurring during the month, and the warnings of the same issued by the Bureau, with instances, as far as reported by observers or the press, in which these warnings were of special public benefit. The signals displayed by the Weather Bureau will be referred to as "information," "storm," "hurricane," "cold-wave," and "norther," respectively.

The injurious weather conditions of most marked note that occurred during the month were the frosts and freezing weather in Florida on the 2d, 3d, and 4th; the severe storms on the New England Coast of the 1st, 15th, and 16th; and the heavy snow and wind storm that moved from Texas northeastward across the country to New England from the 18th to the 22d. Frosts and freezing temperatures also occurred in the truck-raising regions of Texas on the 3d, 6th, and 21st.

### THE FLORIDA FROSTS OF FEBRUARY 2-4, 1898.

Severe cold weather prevailed in Florida on the 2d, 3d, and 4th, with frosts on the 2d as far south as Jupiter. Following are the minimum temperatures reported from Jacksonville, Tampa, and Jupiter, respectively, viz: February 2, 26°, 31°, 40°; February 3, 32°, 38°, 50°; February 4, 34°, 34°, 52°.

Warnings of these injurious conditions were sent as follows, viz: At 9:32, February 1, telegrams to Jacksonville, Tampa, and Jupiter, reading:

Freezing weather in north half of Florida and frosts as far south as Jupiter Wednesday morning. Notify postmasters and give to railroads.

At 10:43 a. m., on the 1st, an additional message was sent to Tampa, as follows:

Freezing weather will extend as far south as your station to-night.

Warnings, substantially the same as the foregoing, were also issued on the mornings of the 2d and 3d.

As showing the benefits derived from the warnings, the following extracts from the reports of observers and newspaper publications are given.

From A. J. Mitchell, Section Director, Jacksonville, Fla.:

All warnings were received sufficiently early for proper distribution. Every possible medium for reaching the various interests of the State was utilized so acceptably that not a complaint has been heard from any quarter regarding the character and distribution of the information. As a whole, the forecast was verified perfectly. The phraseology of the warning was happily selected, being such as to leave no one in doubt as to the probable extent of the cold weather. This office telegraphed the warning to about 140 stations. They were also distributed by the frost-whistle signal of the Florida Central and Peninsular Railroad, which traverses the State, and likewise the Plant System, the Florida East Coast Line, and river steamers on the St. Johns and Indian rivers. From this office alone cards, maps, and telegrams, numbering in the aggregate quite four hundred, were given the public. These, supplemented by cards from forecast distributing centers and the mediums cited above, show a very extensive distribution of the warnings throughout the State.

Coming so early after the freeze of January, the vegetable interest had not assumed normal proportions and the cold was not of such intensity as to destroy citrus trees. However, a great deal of good resulted from the warnings, and the appreciation was general. The total amounts submitted as saved by fruit and vegetable growers alone reach \$68,000; and it is but just to say that the figures represent only a part